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2498

SEP 14 1999

Mr. James A. Saric, Remedial Project Manager
U.S. Environmental Protection Agency
Region V-SRF-5J
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

DOE-1097-99

Mr. Tom Schneider, Project Manager
Ohio Environmental Protection Agency
401 East 5th Street
Dayton, Ohio 45402-2911

Dear Mr. Saric and Mr. Schneider:

TRANSMITTAL OF RESPONSES TO THE U.S. ENVIRONMENTAL PROTECTION AGENCY AND OHIO ENVIRONMENTAL PROTECTION AGENCY COMMENTS ON THE APRIL 1999 REVISION 1 DRAFT OF THE OPERATIONS AND MAINTENANCE MASTER PLAN FOR AQUIFER RESTORATION AND WASTE WATER PROJECT

References: 1) Letter, J. A. Saric to J. W. Reising, U.S. DOE: "RE: O&M for Aquifer Restoration and WASTE WATER," dated July 28, 1999

2) Letter, T. Schneider to Mr. Johnny Reising, US DOE: "Comments on O&M Master Plan for ARWWP," dated June 18, 1999

Enclosed for your review are the subject responses to comments received via References 1 and 2. Once the U.S. Environmental Protection Agency (U.S. EPA) and Ohio Environmental Protection Agency (OEPA) concurrence with the responses and associated actions is received, the Operations and Maintenance Master Plan (OMMP) will be revised as necessary and issued as final.

If you have any questions regarding the responses, please contact Mr. John Kappa at (513) 648-3149, or Robert Janke at (513) 648-3124.

Sincerely,

Johnny W. Reising
Fernald Remedial Action
Project Manager

FEMP:Kappa

Enclosure

cc w/enclosure:
G. Jablonowski, USEPA-V, SRF-5J
M. R. Rochotte, OEPA-Columbus
T. Schneider, OEPA-Dayton (three copies of enclosure)
F. Bell, ATSDR
M. Schupe, HSI GeoTrans
R. Vandegrift, ODH
F. Barker, Tetra Tech
AR Coordinator, FDF/78

cc w/o enclosure:
N. Hallein, EM-42/CLOV
A. Tanner, OH/FEMP
D. Carr, FDF/52-2
T. Hagen, FDF/65-2
J. Harmon, FDF/90
R. Heck, FDF/2
S. Hinnefeld, FDF/31
T. Walsh, FDF/65-2
ECDC, FDF/52-7

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RESPONSES TO U.S. EPA & OEPA COMMENTS ON THE DRAFT OPERATIONS AND MAINTENANCE MASTER PLAN (APRIL 1999)

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

SEPTEMBER 1999

U.S. DEPARTMENT OF ENERGY
FERNALD AREA OFFICE

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RESPONSES TO U.S. EPA COMMENTS ON THE DRAFT OPERATIONS AND MAINTENANCE MASTER PLAN (APRIL 1999)

1. Commenting Organization: USEPA Commentor: Saric
Section #: 2.1.1 Pg #: 2-3 Line #: 8-10 Code:
Original Comment #: 1

Comment: The text states that U.S. EPA has agreed that the off-site South Plume Recovery Well System and the South Plume Optimization System do not require a double-head piping design, which connects one line to the main treatment line and the other line to the main discharge line. The text should be revised to indicate that this is true for systems that are in place but may not apply to future systems. For example, recent sampling data indicate an area in the northeast portion of the South Field Plume that may require additional extraction wells with the double-head piping design. The operation and maintenance master plan (OMMP) should be revised to allow a double-head piping design for future groundwater extraction systems.

Response: DOE agrees that double head piping systems should be allowed for in future designs. This was the intention of the text on lines 6-8 of page 2-3. The new wells for the South field area are currently being designed with a dual piping system; with one pipe to the treatment header and one pipe to the bypass header.

Action: No revision of the document required.

2. Commenting Organization: USEPA Commentor: Saric
Section #: 3.0 Pg #: 3-1 Line #: 11-14 Code:
Original Comment #: 2

Comment: The text states that activities in the Waste Pit Area and Plant 6 Area have been delayed to more closely match soil excavation schedules. This results in a delay of about 3 years in the construction of groundwater extraction systems in each of these areas. DOE should provide the reason for the extension of schedules in a formal request/modification document.

Response: Agree. If a schedule extension is required, it will be requested as formal modifications of the Remedial Design and Remedial Action Work Plans for Operable Unit 5. The timing for this request, if required, would be prior to the Preliminary Design submittals for each of these modules. These submittals have been scheduled for June 15, 2001, for the Waste Storage Area and August 15, 2001, for the Plant 6 Area per the approved Remedial Design Work Plan for Operable Unit 5. As noted on lines 14 and 15 of page 3-1, the FEMP is striving to achieve the original schedule and if successful the formal request will not be necessary.

Action: No revision of the document required.

3. Commenting Organization: USEPA Commentor: Saric
Section #: 4.2.1.2 Pg #: 4-6 Line #: 30-32 Code:
Original Comment #: 3

Comment: The text states that storm water runoff influent will diminish as the former production area is remediated, resulting in the decommissioning and removal of associated storm water collection systems. The text should include a discussion of the impact of the

volatile organic compound (VOC) - contaminated storm water from the former production area remediation on the advanced wastewater treatment (AWWT) Phase II capacity.

Response: Appendix B presents remediation wastewater flow projections for AWWT Phase II. In some cases where more extensive information is not available, these projections represent flow allocations for specific site remediation efforts. The Soil Characterization and Excavation Project (SCEP) has been given an allocation of 50 gpm annual average flow beginning in June 2000. This allocation is in excess of the SCEP project's worst case average flows for excavation scenarios for VOC contaminated zones of the former production area. Their worst case scenario could have up to 18 acres of open excavation which is estimated to produce an annual average flow of 38 gpm (assuming a very conservative 100 percent runoff).

Action: No revision to the document required.

4. Commenting Organization: USEPA Commentor: Saric
Section #: 4.3.2 Pg #: 4-10 Line #: 23-24 Code:
Original Comment #: 4

Comment: The text states that a pretreatment system will remove high concentrations of contaminants from the Clearwell prior to discharge of the treated water to the Biodenitrification Surge Lagoon (BSL). The text should be revised to state that the pretreatment system will be capable of handling flows when the BSL cannot accept discharge from the system.

Response: The comment states that the OMMP should be modified to state that the (WPRAP) pretreatment system will be capable of handling flows when the BSL cannot accept discharge from the (pretreatment) system. To clarify this point, it should be noted that the WPRAP water treatment system (WTS) will not be able to discharge or operate if flow cannot be received by the BSL. During these periods the WPRAP project will need to hold their wastewater in the clearwell and other water holding areas of their project in accordance with their Storm water/Wastewater Management Plan. Text will be added to Section 5.4.1 to emphasize the point that when project specific remediation wastewater flows (including storm water) to the BSL are shut down due to high levels in the BSL, it is the individual projects responsibility to manage their water in accordance with their project specific storm water/wastewater management plans.

Action: Add the following text to Section 5.4.1, page 5-5 after the shut down sequence: "When project specific remediation wastewater flows (including storm water) to the BSL are shut down due to high levels in the BSL, it is the individual projects responsibility to manage their water in accordance with their project specific storm water/wastewater management plans."

5. Commenting Organization: USEPA Commentor: Saric
Section #: 5.1 Pg #: 5-1 Line #: 19-20 Code:
Original Comment #: 5

Comment: The text states that influent streams to the treatment system are sampled for uranium. The text should be revised to state that influent streams to Phase II treatment will also be sampled for VOCs so that the treatment system can remediate influent VOC concentrations.

Response: The intention of the AWWT Phase II carbon beds is to provide Best Available Technology (BAT) treatment for removal of Volatile Organic Compounds (VOCs) from the wastewater stream. Currently, the FEMP runs periodic Total Organic Carbon (TOC) analysis on influent to, and effluent from, the AWWT Phase II carbon beds. ARWWP will conduct a sampling/analysis program consisting of carbon bed influent

and effluent analysis for VOCs and for Total Organic Halides (TOX). The objectives of this program are to determine:

1. The concentration of VOCs in the influent
2. The VOC removal performance of the carbon beds
3. The comparability of the VOC and TOX analytical methods.

It is anticipated, based on favorable results of the above program, that future influent and effluent sampling would consist of infrequent VOC analysis (4 sampling events per year analyzed by EPA SW846 Method 8260B). The TOX analysis would be performed on a more frequent periodic basis (1 or 2 sampling events per month) to provide indication of carbon bed performance and breakthrough.

Action:

1. A sentence will be added in the section: "The AWWT Phase II carbon bed influent and effluents stream will be sampled on a periodic basis to determine influent VOCs and the performance of VOC removal."

2. Revise Figure 5-2 to indicate evaluation of the carbon beds as noted in the response to this comment.

6. Commenting Organization: USEPA Commentor: Saric
Section #: 5.4.1 Pg #: 5-4 Line #: 20-23 Code:
Original Comment #: 6

Comment: The text states that when the Waste Pits Remedial Action Project (WPRAP) and former process area cleanup and dewatering projects are fully operational, the AWWT Phase II system will rarely be able to handle groundwater treatment during the wet season. The text should be revised to clarify whether the AWWT Phase I system will have sufficient capacity to handle groundwater pumping rates during the wet season. The text should also explain if conversion of the lime sludge ponds into a water management facility will provide additional storage capacity during the wet season.

Response: Groundwater treatment capacity sufficient to meet the FEMP's regulatory commitments is expected to be achieved using the AWWT Expansion, AWWT Phase I, SPIT, and IAWWT. The FEMP is required to provide a minimum of 2000 gpm average annual treatment capacity for groundwater. As shown on Figure 5-15, current projections indicate that this requirement will be met without utilizing the Phase II system. Review of groundwater treatment records for 1999 indicate that for the first 6 months of the year the FEMP has treated an average of about 2300 gpm of groundwater.

Any groundwater treatment capacity available in AWWT Phase II is used simply as a best management practice in attempting to treat as much water as treatment capacity permits and minimize site uranium discharges to the Great Miami River. The groundwater remediation strategy, however, does not rely on any groundwater treatment capacity being available in the AWWT Phase II system.

Conversion of the Lime Sludge Ponds to a Water Management facility will provide extra holding capacity, however, this will provide minimal benefit to the former production area excavation effort as the limiting factor will likely be AWWT Phase II treatment capacity throughput.

Action: No revision to the document required.

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7. Commenting Organization: USEPA Commentor: Saric
Section #: 5.4.1 Pg. #: 5-5 Line # : 20-23 Code:
Original Comment #: 7
Comment: As stated in the text, waste pit water contains both metal and uranium at significantly high concentrations. The text should be revised to explain where discharge from the WPRAP wastewater treatment systems will be stored when the BSL cannot accommodate such discharge.
Response: This comment is similar to Comment 4. Please refer to the response to Comment 4.
Action: Please refer to the action for Comment 4.

8. Commenting Organization: USEPA Commentor: Saric
Section #: 5.4.3.1 Pg #: 5-14 Line #: 7-9 Code:
Original Comment #: 8
Comment: The text states that groundwater well discharges are prioritized according to uranium concentration. Wells containing the highest uranium concentrations will be treated first, and remaining wells will not require treatment. The text should present a uranium concentration which groundwater will require treatment and the frequency of bypass occurrences during the wet season.
Response: There is not a specific uranium concentration in groundwater above which the water requires treatment. Per the OU 5 ROD, the FEMP is required to meet its uranium discharge limitations of a monthly average of 20 ppb and an annual limit of 600 pounds in the effluent to the Great Miami River. Uranium concentrations in the influents to and effluents from the various treatment systems at the FEMP are variable over time as is the treatment capacity for groundwater. Meeting the discharge limits is achieved by regenerating or replacing ion exchange resins in the various treatment systems as the situation warrants. Uranium concentrations in the treatment plant influent and effluent are measured and tracked daily. During rainy periods, the uranium concentration in the discharge from the treatment facilities becomes a more critical factor as the additional groundwater (assumed to be >20 ppb uranium concentration) is bypassed to the Great Miami River without treatment. This additional untreated discharge may need to be compensated for by lower uranium levels in the treatment system discharges in order to meet the 20 ppb monthly average.

As for the frequency of bypasses during the wet season, those are also variable. For example, during 1998 fourteen "significant precipitation" treatment bypass days were required to help prevent an overflow of the Storm Water Retention Basin. To date in 1999, no treatment bypasses due to significant precipitation have been required.
Action: No revision of the document required.

9. Commenting Organization: USEPA Commentor: Saric
Section #: 6.11 Pg #: 6-11 Line #: 15-16 Code:
Original Comment #: 9
Comment: The text states that loss of power in the AWWT distributed control system (DCS) would result in system shutdown. The text should be revised to include an uninterruptable power supply for the DCS during loss of power.
Response: Agree, the AWWT Facility is currently equipped with an uninterruptable power supply (UPS) that provides battery back-up power to the distributed control system (DCS) in the event of a power failure.

The text states: "Loss of utilities or a failure in the AWWT DCS would result in a system shutdown." The "loss of utilities" refers to electrical power and compressed

air, which would result in a shutdown of the system. The "failure of the AWWT DCS" refers to computer hardware or software failures, which would also result in a system shutdown.

Action: The following text will be added after the sentence ending on line 16 of page 6-11: "(Note that the DCS is equipped with an uninterruptable power supply [UPS] that provides battery backup to the DCS in the event of power failure.)"

RESPONSES TO OHIO EPA COMMENTS ON THE DRAFT OPERATIONS AND MAINTENANCE MASTER PLAN (APRIL 1999)

General Comments

10. Commenting Organization: OEPA Commentor: DSW
Section #: Pg #: Line #: Code: C
Original Comment #: 1
Comment: It would be very helpful if all the sources, their flow, and their uranium concentrations (avg, max, min) were in one table.
Response: Comment acknowledged. The flow information presented in Sections 4.1 to 4.3 and uranium concentrations of the various headworks provided in Section 5 is the most complete information available at this time. Uranium concentration is not available for those streams that are projected. However the current uranium concentrations of the various headworks are sufficient for the purposes of operating the facilities. Tabulation of the requested information beyond that already provided would be very speculative.
Action: No revision to the document required.

Specific Comments

11. Commenting Organization: OEPA Commentor: DSW
Section #: 1.2 Pg #: 1-3 Line #: 6 Code: E
Original Comment #: 2
Comment: "affect" should be "effect"
Response: Comment acknowledged.
Action: Requested change will be made.

12. Commenting Organization: OEPA Commentor: DSW
Section #: Table 2-1 Pg #: 2-9 Line #: 05-1043 Code: C
Original Comment #: 3
Comment: This states that the water collected will be removed by means of floating outlet structures. Is the floating outlet currently in use and is the plan to continue use of the floating outlet.
Response: Future use of the floating outlet structures at the SWRB is planned as noted in the revised operating procedure described in Section 5.4.2.3, Storm Water Under Revised OMMP. They are currently in use with the temporary exception of the floating outlet in the East Chamber. The float and its flexible piping has become detached from the rigid outlet piping. This floating outlet structure will be reconnected.
Action: No revision to the document required.

13. Commenting Organization: OEPA Commentor: DSW
Section #: Figure 3-6 Pg #: n/a Line #: n/a Code: C
Original Comment #: 4
Comment: On the drawing of the storm sewer sub-surface drainage, the following is not clear: (a) - in the east parking lot, north section, the drainage from the parking lot is difficult to discern from the drainage that comes from the radiation control checkpoint and the administration buildings. It appears as though these are linked so that the drainage from the radiation control checkpoint and the administration buildings could be routed

directly to the storm sewer outfall ditch. Please provide more detail regarding these drainages.
(b) - there is a line that enters the drawing from the south and connects with the system between the two basins. What area does this drain (assuming direction of flow is towards the basins).
(c) - there is a pipe that drains into the east basin on the westerly side of the south end. This does not show on the drawing, what area does this pipe drain and what is the routing of the pipe.
(d) - the drawing does not show the routing from the pump in the bottom of the storm water management pond in the waste pit area.
(e) - this drawing and 3-7 have dashed lines, what are these.

Response: Figure 3-6 is included to communicate general drainage patterns of the site and is not intended to provide detailed information regarding specific drainages. The scale and size of this figure are not conducive to discerning specific drainage and flow patterns. However, your comments indicate that some modifications to the drawings are necessary. Responses to your specific comments are addressed as follows:

a. The flows from the radiation control checkpoint area do not flow to the storm sewer outfall ditch. The drainage from this area is collected locally and flows westward along with other storm water in the administrative area. These flows combine and empty into the 60-inch storm sewer main trunk line that flows to the SWRB.

b. The noted line represents the force main that conveys collected storm water from the Southern Waste Unit (SWU) retention basins.

c. The line that flows into the southwest corner of the east chamber of the SWRB conveys flow from the sump located at the southwest corner of this basin. This sump collects several sources of water including leakage from the East SWRB chamber, East chamber perimeter drain flow, and site drainage from the north that is cross connected into the perimeter drain system. The drainage from the north consists of an old drainage tile system that runs north-south, in parallel with the 60 inch storm sewer main and also collects subsurface drainage from around the Plant 2/3 and Plant 6 areas.

d. Noted. The main intent of this drawing is to delineate the gravity flow storm sewer lines, however, several force mains that convey storm water are shown. The drawing will be modified to show this force main as well.

e. The dashed lines shown on Figures 3-6 and 3-7 are abandoned lines. The drawing legends will be modified to reflect this.

Action: Drawing revisions as noted in responses (d) and (e).

14. Commenting Organization: OEPA Commentor: DSW
Section #: 3.2.1.2 Pg #: 3-11 Line #: 12-17 Code: C
Original Comment #: 5

Comment: Uncontrolled runoff also leaves the site in the northeast corner via the recently constructed wetland area.

Response: Comment acknowledged.

Action: Revise paragraph beginning on page 3-11 line 13 as follows: "The majority of the uncontrolled site runoff (that runoff not requiring treatment for uranium removal) flows

to Paddys Run via four existing drainage pathways. Monitoring of these pathways and other locations where uncontrolled surface water leaves the FEMP currently exists under the IEMP sampling program. This monitoring will continue as described in Section 4 of the IEMP (DOE 1999 _)." Update OMMP reference list to reflect the most recent version of the IEMP.

15. Commenting Organization: OEPA Commentor: DSW
Section #: Figure 3-7 (and 3.2.3.1) Pg #: n/a Line #: n/a Code: C
Original Comment #: 6

Comment: (a) The figure shows one line going in to the new sanitary treatment plant, is there a line that runs from the new plant to the AWWT.
(b) The badging trailer shows a short sanitary line that stops near the trailer, what is the treatment of the effluent from the sanitary line for the badging trailer.
(c) Please explain the dashed lines (e.g. the line to the old treatment facility).

Response: Figure 3-7 is included to communicate general sanitary sewage flows and is not intended to provide detailed information regarding specific sewerage. The scale and size of this figure are not conducive to discerning specific sewage flow pathways. However, your comments indicate that some modifications to the drawings are necessary. Responses to your specific comments are addressed as follows:

a. A force main exists that conveys treated sewage effluent to the common AWWT discharge line located at the south east side of Building 51 (AWWT). Figure 3-7 will be modified to show this line.

b. The line leaving the badge trailer is the gravity flow sanitary sewerage line that conveys raw sewage from the badge trailer to a holding tank. This holding tank is routinely pumped and transported off site to a publicly owned treatment works (POTW).

c. As indicated in the response to Comment 13, the dashed lines on Figures 3-6 and 3-7 are abandoned lines. The drawing legends will be modified to reflect this.

Action: Drawing revisions as noted in responses (a) and (c).

16. Commenting Organization: OEPA Commentor: HSI-GeoTrans, Inc.
Section #: Figure 3-11 Pg. #: NA Line # : NA Code: E
Original Comment #: 7

Comment: Text (page 3-25, line 14) refers to Outfall 4002; Figure shows 4002O and 4002B but not 4002. Also, Internal Sampling Station 4589 (referred to on page 3-25, line 25) is not shown on the figure.

Response: Sample location 4002O is the SWRB "Overflow" sampling point and 4002B is the SWRB "Bypass" sampling point. Sample location 4002O is the actual sampling point for the NPDES permitted outfall 4002. Sample point 4002B is used to track the SRWB bypass contribution to outfall 4001 during those periods when the water from the SWRB is required to bypass treatment to keep the SWRB from overflowing.
Figure 3-11 shows only surface water and treated effluent sampling locations, therefore internal sampling station 4589 is not included because it pertains to the sampling of de-watered sludge from the sewage treatment plant not to surface water or treated effluent.

Action: Revise sentence ending on line 15 as follows: ...is the SWRB overflow spillway (location 4002O on Figure 11).

17. Commenting Organization: OEPA Commentor: DSW
Section #: 3.4.1.2 Pg #: 3-18 Line #: 20 Code: E
Original Comment #: 8
Comment: "8-million-gallon" should read "8 million gallon" to be consistent with the rest of the document (e.g. "10 million gallons" in section 3.4.1.1 in the text above).
Response: Agree.
Action: Requested change will be made.

18. Commenting Organization: OEPA Commentor: DSW
Section #: 3.4.1.4 Pg #: 3-19 Line #: 16-23 Code: C
Original Comment #: 9
Comment: This indicates that the dredges will be operated in "dry weather". We understand this to mean that the dredges will be operated during a period that storms are not forecast (or perhaps during a "normally" dry time of the year?). Base water levels will have to be increased during the time the dredges are operated to allow them to float and operate properly. Therefor some period of "holding" of a recent rain event will have to occur before the dredges are operated. The following questions are raised:
(a) - what will define dry weather (e.g. period with no rain, time of year, combination of the two?)
(b) - how long will the base level have to be raised to allow the dredges to complete their operation (e.g. one of two days, weeks, a month?)
Response: The statement that the water levels would have to be above low levels (at least to perform dredging in what is deemed to be shallow areas (i.e., ~ 2 feet of draft) during the time the dredges are operated to allow them to float and operate properly is true. For the SWRB chamber which is to be dredged, (Note - only one chamber of the SWRB will be addressed at any given time) a higher level than that shown on Figure 5-5, (Case I) will be necessary. In response to your specific questions:

a. Dry weather was meant to imply a period with no rain predicted. It was not meant to restrict the time of year (i.e., "Dry season" defined in other parts of the OMMP text for the period of September to February). However, further understanding of the operational parameters has determined that it is not necessary to delay sludge transfer to AWWT Phase I to periods of low flow and dry weather. Adjustment of the clarifier operation via jar testing will allow transfer as desired. Therefore, the limitation of "During dry weather, and" will be removed from the text.

b. The dredge has a discharge rate of approximately 300 gpm. Therefore, it will only take a portion of one day to fill each tank (volumes of 30,000 gallons and 50,000 gallons) with a batch of sediment. Since the objective of the dredging operations is to maintain a minimal sediment level in the basins (as opposed to fully cleaning the basins at one time), once a tank is loaded, the basin operation can return immediately to normal drawdown procedures as discussed in Section 5.0. Therefore, the raised level should only have to be held for short periods of time. Efforts will be made to perform the dredging during normal drawdowns (when the basin levels are above the minimum dredge operating levels) to avoid adding risks above those normally anticipated for each basin. The batch of sediment will be held (recycled and mixed) and discharged under adjustable controlled conditions (3-25 gpm estimated) to the downstream AWWT clarifiers. This will allow the operators to adjust the chemical feed to the AWWT clarifiers to address the higher sediment loading.

Action: On page 3-19, line 17, delete: "During dry weather, and".

19. Commenting Organization: OEPA Commentor: DSW 2498
Section #: 3.5.4 Pg #: 3-24 Line #: 2-26 Code: C
Original Comment #: 10
Comment: What is the time line for addressing the STP effluent uranium concentrations?
Response: Based on preliminary studies completed to date, it is believed that the erratic (raised) discharge level of uranium in STP effluent experienced in December and January resulted primarily as a result of rainfall and cold weather temperatures. Therefore, it is intended that the studies be concluded by the end of September to allow for implementation of some actions by November 1 (onset of cold weather).
Action: No revision to the document required.

20. Commenting Organization: OEPA Commentor: DSW
Section #: 3.6.1 Pg #: 3-25 Line #: 14 Code: C
Original Comment #: 11
Comment: The storm sewer outfall ditch enters Paddys Run at RM 1.9 on our PEMSO maps, rather than at RM 2.50.
Response: The document "USDOE Fernald Water Quality Based Effluent Limits Report" dated January 26, 1995 prepared by the Division of Surface Water, provides a summary of stream use designations. A subsection titled "Receiving Stream Network" states the following: "The USDOE Fernald Facility discharges at River Mile (RM) 24.73 to the Great Miami River (outfall 001) and at RM 2.50 to Paddy's Run (outfall 002). Paddy's Run enters the Great Miami River at RM 20.2." This document is the support document for the FEMP NPDES Permit. The information referenced in the comment was pulled from this document.
Action: OEPA should reconcile their PEMSO maps and the above report and inform DOE of the proper river mile location.

21. Commenting Organization: OEPA Commentor: DSW
Section #: 3.6.2 Pg #: 3-27 Line #: 28-34 Code: C
Original Comment #: 12
Comment: Considering the projected increase in water handling required by the BSL, AWWT, and other components of the treatment systems, formalized updates on performance/compliance/changes may be advised. Perhaps a quarterly or semiannual update would be more useful than unspecified "periodic reports".
Response: Formalized compliance reporting updates with respect to the 20 ppb monthly effluent uranium limit are currently provided in the quarterly and annual IEMP reports. Exceedances of the 20 ppb limit are reported to the EPAs as noted on lines 18 and 19 of page 3-27. In the past, these exceedances have typically been reported via letter during the month following the exceedance.
Action: None required.

22. Commenting Organization: OEPA Commentor: DSW
Section #: 4.2.2.1 Pg #: 4-3; 4-4; 4-5 Line #: 19; 38; 6 Code: C
Original Comment #: 13
Comment: There is an inconsistency in the volumes reported for the SWRB (i.e. capacity 10.2, 10.8 million gallons, required volume 10.2 million gallons) in this section.
Response: The combined volume of the east and west chambers of the Storm Water Retention Basins is correctly identified as 10.2 million gallons. It should be noted that the 10.8 million gallons is in reference to the SWRB System capacity. The system also includes volume within the surcharged 60" storm sewer main that feeds the SWRB and adds approximately 0.6 million gallons to the holding capacity when the basins are full.
Action: No revision to the document required.

23. Commenting Organization: OEPA Commentor: HSI-GeoTrans, Inc.
Section #: 4.2.1.1 Pg. #: 4-3 Line #: 26 Code: C
Original Comment #: 14
Comment: Quantify the "substantially increased" pumping rate.
Response: The two new pumps (installed in 1995) each have the capacity to transfer 1100 gpm (AWWT Phase I design flow of 700 gpm and IAWWT design flow of 400 gpm). When in a bypass mode, the combined pumping rate (both pumps operating) has been approximately 1600 gpm when serving the two treatment units combined with bypassing remaining flow to the Great Miami River.
Action: No revision to the document required.

24. Commenting Organization: OEPA Commentor: HSI-GeoTrans, Inc.
Section #: 4.2.1.1 Pg. #: 4-5 Line #: 21 Code: C
Original Comment #: 15
Comment: Review of Section 5.4.2.2 (referenced at this location) fails to reveal any reference to or explanation for either (a) the increased pumping rate of discharge pumping or (b) the elimination of settling prior to pumpout.
Response: This comment is similar to Comment 44. Please refer to the response to Comment 44.
Action: As noted in the action for Comment 44.

25. Commenting Organization: OEPA Commentor: DSW
Section #: 4.2.1.2 Pg #: 4-7 Line #: 2 Code: E
Original Comment #: 16
Comment: "storm Sewer List Station" should read "Storm Sewer Lift Station".
Response: Agree.
Action: Requested change will be made.

26. Commenting Organization: OEPA Commentor: DSW
Section #: 4.2.2 Pg #: 4-7 Line #: 30-34 Code: C
Original Comment #: 17
Comment: This is not clear. It appears from this statement, and from the information in Figure 4-7, that the SWRB influent is predicted to increase by over 30- in 2000-2003 over 1999 flows. If this is correct, please state the cause of this increase here.
Response: Agreed. While the volume of storm water collected in the SWRB is expected to decrease as discussed, the diversion of backwash waters from Phase II to the SWRB will cause an initial increase in inflow to the system. The beginning of Section 4.2.2 will be revised as follows:

"Figure 4-7...above. As explained later in Section 5.4.2.4, a modification to the AWWT Phase II treatment system is planned which will divert backwash waters to the SWRB. As shown on Figure 4-7, this additional estimated 70 gpm average inflow is expected to be diverted to the SWRB by January 2000. Note that after January 2000, ..."

Note that this increase in inflow is being addressed by additional modifications to operating procedures (e.g., such as implementation of the "Dry Weather" low flow treatment configuration, etc.). As discussed in Section 5.4.2.3, these modifications are deemed to minimize or negate any potential impact to the OU5 ROD commitments.
Action: Revise text as noted in the response.

27. Commenting Organization: OEPA Commentor: DSW
Section #: 4.3.1 Pg #: 4-8 Line #: 25-28 Code: C
Original Comment #: 18

Comment: What is the potential effect of the SPIT and IAWWT backwash reroute on untreated discharges from the SWRB (i.e. bypasses/overflows). Does the backwash significantly affect the total uranium concentration in the SWRB? Are the backwashes performed regularly or only during periods of low probability of significant precipitation? Our concern is that the additional uranium and additional volume in the SWRB could increase the possibility of higher releases of uranium from the site beyond acceptable levels.

Response: The SPIT and IAWWT multimedia filter backwash outlet was diverted from the General Sump to the SWRB in late 1998. The average uranium concentration of daily SWRB discharge grab samples has been 281 ppb uranium for the first six months of 1999. For the first six months of 1998 the average of the daily discharge samples was 284 ppb. Those results suggest that diverting the backwash water to the SWRB has had no measurable impact on SWRB uranium concentration.

Backwashes are initiated on reaching a pressure drop across a filter and normally occur on a fairly regular basis, (about once per day for the SPIT/IAWWT filters). Backwashes may be deferred for some time, but waiting too long can lead to break through of solids into the ion exchange units and to reduced treatment capacity and effectiveness. Current plans do not call for delaying backwashes based on SWRB levels or weather conditions.

Samples of backwash water from AWWT multimedia filters were analyzed for uranium concentration. They were found to have essentially the same uranium concentration as the filter's inlet wastewater. The response to Comment 28 provides some additional detail on expected uranium quantities in backwash water from AWWT.

The quantity of SPIT/IAWWT backwash water is estimated to be an average of no more than 30 gpm (less than 50,000 gallons per day). The IAWWT/SPIT filters are expected to perform similarly to the AWWT multimedia filters. Using the same assumptions as in Comment 28, the added effect of SPIT/IAWWT backwash water on the uranium in the SWRB wastewater is calculated to be less than 0.15 pounds/day. It would amount to less than 1.5 pounds if that quantity were bypassed around treatment for the ten annual treatment bypass days provided in the ROD. Diversion of SPIT/IAWWT filter backwash to the SWRB is expected to have a negligible impact compared to the 600 pounds per year discharge limit for uranium.

Action: No revision to the document required.

28. Commenting Organization: OEPA Commentor: DSW
Section #: 4.3.1 Pg #: 4-9 Line #: 2-8 Code:
Original Comment #: 19

Comment: This states that currently backwash is sent directly to AWWT Phase II for treatment, but that the backwash will be rerouted to the SWRB to address a projected shortfall in capacity at the BSL. If it is not currently routed to the BSL how will rerouting it to the SWRB increase capacity in the BSL. We also have concerns about the potential for increase in concentration of uranium released through bypass/overflow from the SWRB particularly in light of the projected increase in influent to the SWRB.

Response: The Phase II system treats the wastewater stored in the BSL. The lead tank in the Phase II system (tank 155) receives all of the internally recycled water within the

AWWT complex (including backwash water from AWWT Phases I and II and the AWWT Expansion). This arrangement creates an added limit on the flow of water from the BSL to Phase II. Diverting the backwash water to the SWRB allows Phase II to treat more wastewater from the BSL. The sentence ending on line 8 will be reworded to read "...projected shortfall in treatment capacity for wastewater from the BSL."

To help determine the possible effect on SWRB uranium concentration due to the planned reroute of backwash water, samples of backwash water were analyzed for uranium in October 1998. Samples from six different Phase I multimedia filter backwashes had an average uranium concentration of 437 ppb (ranging from 427 to 455 ppb). During the same time period the average concentration of samples from the Phase I clarifier outlet (filter inlet) averaged 424 ppb (range of 421 to 436 ppb). Suspended solids results for the backwash water samples ranged from 700 to 1400 ppm, many times the typical clarifier outlet value of less than 10 ppm. Samples from eight different Expansion multimedia filter and IX backwashes averaged 69 ppb uranium (range 60 to 74 ppb) while influent samples averaged 68 ppb (range 59 to 74 ppb). Suspended solids levels in those samples were in a wide range between 20 and 10,000 ppm, considerably above the typical groundwater value of less than 5 ppm. That data suggests that the filter backwash water had no more uranium than the filter's inlet water.

Process operating data was also reviewed for several hundred daily sample results of uranium concentration after clarification and before ion exchange to estimate the amount of uranium possibly removed in the multimedia filters. In 1997, AWWT Phase I averaged 392 ppb uranium leaving its clarifiers and had an average of 314 ppb uranium entering the ion exchangers. In 1998, AWWT Phase I averaged 403 ppb uranium after clarification and 332 ppb before ion exchange. For Phase II the averages were 925 ppb before filtration and 891 ppb after in 1997, 812 ppb before and 771 ppb after filtration in 1998. Long term data for uranium in and out of the AWWT Expansion multimedia filters has never been collected.

The specific sample results from October 1998 suggest virtually no uranium removal during backwash in the filters. That data appears to simply reflect a displacement of the uranium containing wastewater from the filter. The suspended solids values suggest that filtered material was being removed from the filter during the backwash. The longer term process sample results imply at least some uranium removal by filtration in Phases I and II. Using the long term sample results, at a treatment process flow of 600 gpm, the Phase I system filters would remove a calculated average of about 0.53 pounds uranium per day from the wastewater. At 300 gpm treatment flow, the Phase II filters would remove a calculated average of 0.14 pounds uranium per day. Filtration could remove an average of 0.67 pounds uranium per day, based on the operating sample data.

Backwash flow from the AWWT filters is estimated to be no more than an average of 70 gpm (about 100,000 gallons per day). The estimated distribution of backwash volume is 60 percent from Phase I filters, 30 percent from Phase II filters, and 10 percent from the AWWT Expansion filters. The source of backwash water is clean (potable water or AWWT effluent after ion exchange). Less than half of the total backwash water volume is displaced wastewater from the filter. The uranium in the wastewater displaced from the filter for a backwash calculates to a total of 0.28 pounds

uranium per day. If all of the calculated uranium removed in the filters (0.67 pounds per day) were also backwashed out a total of 0.95 pounds additional uranium per day would go into the SWRB. If all of that were released during ten treatment bypass days the increase would still be less than 10 pounds per year. The strategy to divert backwash water to the SWRB is expected to have a minor effect on the ability to meet the 600 pound per year discharge limit.

Action: The sentence ending on line 8 will be reworded to read "...projected shortfall in treatment capacity for wastewater from the BSL."

29. Commenting Organization: OEPA Commentor: OFFO
Section #: 4.3.3 Pg #: 4-11 Line #: 25 Code: C
Original Comment #: 20

Comment: The text states that the combined average flows from leachate and run-off at the OSDF project are expected to average 30 gpm. Taking a 21 acre area (from Line-13, Page 4-12) and using an average rainfall of 41 inches per year, we calculate an average flow of 45 gpm. Since rainfall has to manifest itself as either leachate or run-off, the 30 gpm average seems low. The only obvious mechanism to lower this average is evaporation and during conditions conducive to evaporation (sunny and windy) water is being added to the OSDF to control fugitive dust.

Response: Please reference: The Integrated Site Environmental Report for 1998, Appendix A, Attachment A.6, Revision 0, May 28, 1999, page A.6-7, paragraph A.6.4, Leachate Collection System Volumes.

In the above reference, the combined leachate/run-off factor experienced during actual operation of the OSDF during 1998 was 0.64. Using this value and the 21acre area (3 open cells) results in an average 28.47 gpm:

$$\frac{21\text{acres} \times \frac{43560\text{ft}^2}{\text{acre}} \times \frac{41\text{inches}}{12\text{inches/ft}} \times \frac{7.48\text{gal}}{\text{ft}^3} \times 0.64}{\frac{365\text{day}}{\text{year}} \times \frac{1440\text{min.}}{\text{day}}} = 28.47\ \text{gpm}$$

Based on this calculation, we stand by our original estimate of flow of 30 gpm as being representative of expected flow.

Action: No revision to the document required.

30. Commenting Organization: OEPA Commentor: DSW
Section #: 4.3.3 Pg #: 4-11 Line #: 25 Code: E
Original Comment #: 21

Comment: "annually average 30 gpm annually" should be revised to read "average 30 gpm annually".

Response: Agree.

Action: Requested change will be made.

31. Commenting Organization: OEPA Commentor: OFFO
Section #: 4.3.6 Pg #: 4-14 Line #: 23 Code: C
Original Comment #: 22

Comment: The text does not state how the 1 gpm average flow was determined. Should we infer that the estimated flows are based on experience from past D&D activities?

Response: As noted in the introduction to this section (4.0), this section attempts to "project" flows from various sources. In some cases specific volume or measured flow rates were used as the projection basis and in other cases (as with D&D) flows were estimated based on information provided by project representatives as well as past experience. Past D&D activities have yielded very little wastewater and it has been containerized prior to release in approximately 10,000 gallon batches. Since the basic unit used in projecting wastewater sources is flow in gpm ...the smallest practical flow is 1 gpm. This is consistent with past experience.

Action: No revision to the document required.

32. Commenting Organization: OEPA Commentor: DSW
Section #: 5.1 Pg #: 5-1 Line #: 12-15 Code: C
Original Comment #: 23

Comment: It appears, through discussions with site personnel and this document, that one of the primary goals is to keep discharges of contaminants, particularly uranium, ALARA. Perhaps this should be included in this section.

Response: Agree.

Action: Revise the sentence beginning on page 5-1 line 15 as follows: "In keeping with the principals of ALARA, this requires making the correct decisions in applying treatment to maximize the quantity of uranium removed from wastewater prior to its discharge to the Great Miami River."

33. Commenting Organization: OEPA Commentor: DSW
Section #: Figure 5-1 Pg #: n/a Line #: n/a Code: C
Original Comment #: 24

Comment: The flow diagram shows the STP discharging to the Parshall Flume through the aeration tank and not through the AWWT. It was my understanding that the STP discharge does not pass through the aeration tank unless it has been routed through the AWWT for treatment. Please describe the flow path of the STP discharge as it is and the flow path with proposed changes to the system.

Response: The flow diagram is correct. The original (old) sewage treatment plant tied in to the site outfall down stream of the aeration tank. However, the new sewage treatment plant effluent combines with AWWT Phase I, II and Expansion plant effluents in the combined outfall line then joins IAWWT, SPIT, SWRB bypass (if operating) and groundwater bypass before the combined flow passes through the aeration tank.

Action: No revision to the document required.

34. Commenting Organization: OEPA Commentor: OFFO
Section #: 5.2 Pg #: 5-3 Line #: 7 Code: C
Original Comment #: 25

Comment: Provide an up-date on the "Sanitary Sewage System Investigation" . A draft version of this Plan was discussed in early February. The investigation was to look at causes and solutions to the unexpectedly high uranium concentrations found in the sanitary sewers.

Response: This comment is similar to Comment 19. Please refer to the response for Comment 19.

Action: No revision to the document required.

35. Commenting Organization: OEPA Commentor: DSW
Section #: 5.2 Pg #: 5-2 Line #: 28 Code: E
Original Comment #: 26

Comment: The acronym BRSR does not appear in the acronym list.

Response: Agree.

Action: Add BRSR to acronym list.

36. Commenting Organization: OEPA Commentor: OFFO - 2498
Section #: 5.4.1 Pg #: 5-5 Line #: 25 Code: C
Original Comment #: 27

Comment: This paragraph spreads it out a little too thick considering recent problems with the leachate transmission system. Why not justify the shut-down sequence by quoting typical uranium concentrations in OSDF leachate and waste pits liquids?

Response: Comment acknowledged. DOE agrees that it could justify the shut down sequence based on uranium concentrations, as suggested by the commentor. However, in light of the recent events regarding the leachate line at the OSDF, which has prompted additional review of the OSDF design documentation, DOE is revising the shut down sequence to reflect the priority of long-term protectiveness for the environment. In reviewing the design documentation, it has been reemphasized that stresses on the OSDF liner system, such as that caused by accumulating water should be minimized. Since the OSDF is required to be protective long into the future, after the site has been remediated, it will become the highest priority flow (i.e., the last flow to the BSL to be shut off). Leaks/overflows from other areas of the site will be remediated as necessary as part of the site remediation. However, leakage from the OSDF Cell liner systems of a magnitude requiring liner repair and/or cleanup of the subsoil would be a substantial and costly endeavor which must be avoided.

Action:

1. Delete the sentence beginning on line 30 and ending on line 32 of page 5-4.

2. Revise the text beginning on page 5-4 line 32, through line 7 on page 5-6 as follows:
"Overflow of the BSL, besides discharging contaminated water to adjacent areas and Paddys Run, could cause erosion of the berms and possible structural failure, and is therefore unacceptable. Processes that send water to the BSL will be requested to terminate pumping in an order based on: 1) the relative importance of each influent to the overall FEMP site objectives; and, 2) the ability of each process to hold its discharge water until the period of heavy precipitation is complete. Based on this criteria, the following shutdown sequence results:

Sequence	Description
1st	HNT (Silos Project Wastewater)
2nd	WPRAP Storm Water Management Pond
3rd	SCEP Dewatering
4th	WPRAP Wastewater Treatment System
5th	Shutdown pumping of WPASRC Facility
6th	OSDF Leachate Transfer System

If all process flows to the BSL have been halted and the level in the BSL continues to increase, approximately 200 gpm of additional discharge flow from the BSL will be diverted to the AWWT Phase I treatment system. This action will only be used if this emergency condition exists, since wastewater treated through the AWWT Phase I system will not be treated for VOC contaminant removal.

It is possible that the WPASRC facility may be shutdown and allowed to overflow to a swale to the west of the facility. Water which reaches the swale may infiltrate or overflow to Paddys Run and become a source of additional groundwater

contamination. Water which remains in the swale can be pumped back into the WPASRC when the heavy rainfall is over and the level in the BSL has dropped low enough to allow additional inflow. The flow chart tells the supervisor to continue pumping this pond into the BSL until it becomes evident that continuing to pump will cause the BSL to exceed the freeboard level, which would place the facility into overflow potential.

It is also possible that the leachate flow from the OSDF may be shut down, thereby causing the leachate to accumulate in the individual cells. As shown on Figure 5-2, the accumulated leachate will be the first flow to the BSL to be reinstated once the BSL water level has declined to the prescribed level."

3. Revise Figure 5-2 to reflect the updated shutdown/re-start sequence for flows to the BSL.

37. Commenting Organization: OEPA Commentor: OFFO
Section #: 5.4.1 Pg #: 5-5 Line #: 31 Code: C
Original Comment #: 28
Comment: The text states that as a last resort if the BSL continues to rise, flows would be diverted to the AWWT Phase I system. Figure 5-1 does not show an "alternate flow arrow" into the AWWT Phase I treatment.
Response: Comment acknowledged.
Action: Revise Figure 5-1 to show the "alternate flow arrow" for the BSL.

38. Commenting Organization: OEPA Commentor: OFFO
Section #: 5.4.2.2 Pg #: 5-9 Line #: 18 Code: C
Original Comment #: 29
Comment: How was the 10 gpm contribution of dust control water to the SWRB estimated? We realize that some dust control water will inevitably reached the storm water control system, but this number seems high considered on an average annual basis.
Response: Comment acknowledged. DOE agrees that this is a conservative estimate. We currently have no basis on which to develop this number. However we know that flow from dust control probably exists as a function of changing pre-precipitation soil moisture conditions which would presumably raise runoff coefficients in areas where dust control water is applied. For lack of a more accurate number we will maintain the 10 gpm allowance.
Action: No revision to the document required.

39. Commenting Organization: OEPA Commentor: DSW
Section #: 5.4 Pg #: 5-4 Line #: 10-14 Code: C
Original Comment #: 30
Comment: We agree with the prioritization, however this prioritization for non-sanitary waste streams does not seem consistent with actions taken at the site. For example ground water from the south plume extraction wells with total uranium levels at or near (in some cases below) the FRL are being pumped to treatment rather than being discharged directly to the river. This takes treatment capacity from wells with higher levels of total uranium or from treatment for surface or remediation waters. It would seem prudent and in line with the stated prioritization to separate low level ground water streams so that they could be discharged directly as more capacity is required for higher level waste streams.

Response: Comment Acknowledged. A portion of the low concentration water from the South Plume is being sent to treatment because, per the approved design, it is being blended with the other South Plume wells and given the current configuration there is no way to segregate the low concentration wells from the higher concentration wells. Therefore, a portion of this flow is sent to treatment and a portion is sent to bypass. The uranium concentration of the blended South Plume flow stream is about 30 ppb (June 1999 average). This is down from a high of about 48 ppb (average for December 1998). Considering the substantial drop in the uranium concentration of this combined flow over the past year since the start-up of the optimization wells, the economic viability of splitting the low concentration wells off from the higher concentration wells is questionable (i.e., by the time we could design and build the additional piping the combined flow may be near or below the 20 ppb limit).

Also noteworthy is the fact that during negotiations regarding the installation of the optimization wells in 1997, the landowner expressed concerns regarding additional pipelines across his land. These concerns were a key driver in reaching the decision to not separate the lower concentration wells from the higher concentration wells at that time.

Action: Continue to track the uranium concentrations in the individual wastewater flow streams. Continue to prioritize the treatment of these flows based on uranium concentration.

40. Commenting Organization: OEPA Commentor: DSW
Section #: 5.4.1 & Figure 5-2 Pg #: 5-4 Line #: 28-32 Code: C
Original Comment #: 31

Comment: The "stop pumping" BSL freeboard level has been raised from 110" to 92". It would seem as though you would want to maximize the holding capacity of the BSL prior to cessation of pumping BSL water to treatment at the AWWT phase II, please explain why the base water level was raised.

Response: The stop pumping elevation is actually the same as in the previous version of this document. The reference datum from which this elevation is measured (i.e., the top of the BSL berm) is actually 18 inches lower than the previous reference datum (i.e., the top of the concrete sump). This change was made so that stricter attention could be paid to the required freeboard elevations when the basin is near full and so that zero inches of outage (instead of the current 18 inches reading) would correspond to the point where the basin would overflow.

Action: No revision to the document required.

41. Commenting Organization: OEPA Commentor: DSW
Section #: 5.4.1 Pg #: 5-5 Line #: 2-3 Code: C
Original Comment #: 32

Comment: This states that "...will be requested to terminate pumping..." What authority do the treatment operators have to cease influent pumping from the projects under the control of the contractors. For example if the WPRAP contractor wishes to continue pumping to the BSL for some reason specific to the contractors work on the WPRAP, and refuses to stop pumping, or "delays" response to the request, what recourse and/or contingency do the operators have.

Response: In the case of WPRAP, the contract with IT specifically provides that if the water level in the BSL is such that flow reductions or terminations of flow to the BSL are necessary, IT will be notified and will need to act accordingly (e.g., cease operations). In this respect, the Stormwater/Wastewater Management Plan, which is included in the Remedial Action Package for WPRAP, includes provisions for what IT will do in these

situations. If IT should fail to adhere to a request to reduce or terminate flows to the BSL, FDF will take whatever measures are necessary to rectify this situation, including issuing a stop work order.

Action: No revision to the document required.

42. Commenting Organization: OEPA Commentor: DSW
Section #: 5.4.1 Pg #: 5-7 Line #: 22-31 Code: C
Original Comment #: 33

Comment: OEPA has expressed concern about the site's ability to process the volumes of wastewater for some time. We agree that the projection for AWWT Phase II capacity is a concern. Additionally capacity of the SWRB has been a concern. Although improvements have been made in the ability of the SWRB to handle significant precipitation events (lowering the base level, raising the bypass level, removing clean flows from the SWRB, etc.) we are not comfortable with the increases proposed, particularly with the high concentrations of uranium in these additional flows. Have other storage facilities for backwash been considered such as the HNT or the lime sludge lagoons and routing those to AWWT Phase I?

Response: The responses to Comments 27 and 28 contain estimated potential increases of uranium releases during treatment system bypasses of SWRB wastewater which could result from this strategy. The total impact is expected to be minor. The revised SWRB operating strategy has had some early success, in that there were no bypasses of treatment during 1999's wet season, even with the additional incoming flow stream of IAWWT/SPIT filter backwash water.

Diverting AWWT filter backwash waters to the SWRB is a relatively inexpensive and easy to implement job. The existing AWWT backwash water is collected in a header piped to tank 155. A tee off that header can be piped to an existing storm sewer near AWWT from which the backwash water will gravity drain to the SWRB. The job involves about 100 feet of piping and three valves. Sending backwash water to other viable locations (e.g., HNT) would be considerably more expensive (much more lengthy pipe runs, possible needs to increase pump heads, etc.) and would take much longer to implement. Adding additional surge capacity at the AWWT would be another alternative, but it also would be considerably more expensive (tanks, pumps, controls, etc.). The increase in water flow through the SWRB will be needed for only a short time frame (through 2003). We feel the risks are acceptable.

Action: No revision to the document required.

43. Commenting Organization: OEPA Commentor: OFFO
Section #: 5.4.2.2 Pg #: 5-9 Line #: 19 Code: C
Original Comment #: 34

Comment: The phase II system only treats 300 gpm. Why does it require backwashing at a rate of 100 gpm? It seems like one step backwards for every three steps forward.

Response: The 100 gpm of backwashing includes not only Phase II, but also Phase I, the AWWT Expansion, IAWWT, and SPIT. All of these were treated in the Phase II system, using approximately one third of its capacity. For clarity, the text will be revised on line 19 to read "...diversion of various treatment system backwashes..."

Action: Revise text as noted in the response.

44. Commenting Organization: OEPA Commentor: HSI-GeoTrans, Inc. -- 2498
Section #: 5.4.2.2 Pg. #: 5-9 Line # 10 Code: C
Original Comment #: 35
Comment: Text should be added to address the corrective actions referred to in Section 4.2.1.1 regarding (a) the increased pumping rate of discharge pumping and (b) the elimination of settling prior to pumpout.
Response: Agree.
Action: The following text will be added to line 12 of page 5-9 after the first sentence. "These actions, coupled with increased pump-out capacity added in 1995 and a basic operational change which eliminates the 24 hours of settling prior to pump-out (see Section 4.2.1.1), will serve to optimize available capacity of the SWRB."

45. Commenting Organization: OEPA Commentor: HSI GeoTrans, Inc.
Section # : 5.4.2.2 Pg. #: 5-9 Line #: 24 Code: C
Original Comment #: 36
Comment: The reference to major storm events is confusing. Does this action apply only at times when there is a major storm event occurring? If so, the sentence should be reorganized to "During major storm events, cease the transfer of runoff collected in the SWU basins once the volume in the SWRB reaches half full. Do not begin the transfer until the event is over and the SWRB volume drops below half."
Response: Clarification noted.
Action: The suggested text clarification will be added.

46. Commenting Organization: OEPA Commentor: DSW
Section #: 5.4.2.3 Pg #: 5-11 Line #: 11 Code: C
Original Comment #: 37
Comment: At the point ground water is no longer being pumped to the AWWT Phase I, it appears that it should be Case III however it indicates in the previous sentence that we are in Case II.
Response: The point at which groundwater is no longer being pumped to the AWWT Phase I occurs at the transition from Case II to Case III. The reference to Case II is correct.
Action: No revision to the document required.

47. Commenting Organization: OEPA Commentor: DSW
Section #: 5.4.2.4 Pg #: 5-13 Line #: 5-13 Code: C
Original Comment #: 38
Comment: As indicated above, we are not comfortable with the additional flow and uranium from the backwash to the SWRB. Additional information about the potential effect on overflow/bypass events, as well as other options considered, is needed.
Response: The response to Comments 27, 28, and 42 and Section 5.4 are intended to address this concern. Please refer to the responses to those comments.
Action: No additional revision to the document required beyond that identified in the action for Comment 28..

48. Commenting Organization: OEPA Commentor: DSW
Section #: 5.4.3 Pg #: 5-13 Line #: 14-25 Code: C
Original Comment #: 39
Comment: Is there a possibility that the AWWT expansion could be used to treat water from the SWRB?
Response: No piping exists to transfer SWRB water to the expansion system. This facility is dedicated to groundwater treatment due to the need to provide high quality water for

re-injection. If SWRB water were transferred to the expansion plant for treatment, it would then be possible to accidently send treated storm water containing contaminant concentrations higher than the groundwater final remediation levels to the re-injection wells. This is deemed unacceptable. The dedication of this facility to groundwater treatment was agreed to during remedial design of the facility to prevent such an occurrence.

Action: No revision of the document required.

49. Commenting Organization: OEPA Commentor: DSW
Section #: 5.4.3.1 Pg #: 5-14 Line #: 6-18 Code: C
Original Comment #: 40

Comment: What is the cost/benefit of breaking down the grouping of the wells further to segregate those with the lowest uranium concentrations and allowing them to bypass treatment more often?

Response: This comment is similar to Comment 39. Please refer to the response for Comment 39.

Action: No additional revision of the document required beyond that identified in the action for Comment 39.

50. Commenting Organization: OEPA Commentor: HSI GeoTrans, Inc.
Section #: 6.3.2. Pg. #: 6-11 Line #: 19 Code: C
Original Comment #: 41

Comment: Additional detail regarding previous FEMP wastewater treatment system outages, either as a brief text discussion or as a summary table, would be useful to support the statement that no expected breakdown that should lead to a loss of treatment capability for longer than a few days is expected.

Response: The following is a summary of treatment system downtime (1 day or more) for the past two years:

May 1999
1+day electrical outage in well field.

April 1999
2 day outage in AWWT Expansion due to valve failure leading to water in instrument air.

March 1999
4 day outage in Phase I and II and 2 day outage in Expansion due to planned distributed control system upgrade (scheduled work for Y2k compliance).

February 1999
None

January 1999
None

December 1998
1-1/2 day outage due to well field maintenance. Treatment systems shut down with low levels in BSL and SWRB.

November 1998
None

October 1998
2 day outage of all treatment systems due to scheduled site wide electrical shut down.

September 1998
3 days down in Phase II due to low BSL levels.

August 1998
10 days down in Phase II due to low BSL levels.

July 1998
9 days down in Phase I due to low SWRB levels and limited groundwater.
2 days down in Phase II due to low BSL levels.

June 1998
7 days down in Phase I for well field tie ins and low SWRB levels.
4 days down in AWWT Expansion for well field tie ins.

May 1998
12 days down in Phase I, 1 day down in Phase II, and 12 days down in AWWT. Expansion for well field tie ins.

April 1998
7 days down in Phase I and 2 days down in Phase II for well field tie ins.

March 1998
1 day down in Phase I and 5 days down in Phase II for planned distributed control system software upgrade (scheduled work).

February 1998
None

January 1998
None

December 1997
None

November 1997
None

October 1997
1 day outage on all treatment systems for planned maintenance on effluent header back pressure control valve.

September 1997
1 day down Phase I for tie ins (scheduled work).

August 1997
18 days down Phase I and 16 days down Phase II for Expansion Project tie ins and planned maintenance (scheduled work during low BSL and SWRB levels).

July 1997
None

June 1997
None

Most outages have been for planned and scheduled work.

The statement on page 6-11 has also been questioned and discussed during internal reviews. The entire last paragraph on Page 6-11 adds little information to the OMMP. To avoid future misunderstanding it will be deleted from the text.

Action: Delete text as noted in the response.

51. Commenting Organization: OEPA Commentor: HSI GeoTrans, Inc.
Section #: Appendix D Pg. #: 3 Line #: 23 Code: E
Original Comment #: 42
Comment: For clarity, here and elsewhere in this appendix, the term "M-scope" should be replaced with "manually operated water level indicator."
Response: Agree.
Action: Requested change will be made.